

# HUMAN PIGMENT EPITHELIUM DERIVED FACTOR (PEDF) ELISA KIT

FOR THE QUANTITATIVE DETERMINATION OF  
HUMAN PEDF CONCENTRATIONS IN SERUM,  
PLASMA AND CELL CULTURES



ALWAYS REFER TO LOT SPECIFIC PROTOCOL  
PROVIDED WITH EACH KIT FOR  
INSTRUCTIONS. PROTOCOL MUST BE  
READ BEFORE USING THIS PRODUCT.

FOR RESEARCH USE ONLY. NOT FOR USE IN  
DIAGNOSTIC PROCEDURES.

## PRODUCT INFORMATION:

ELISA NAME	HUMAN PIGMENT EPITHELIUM DERIVED FACTOR (PEDF) ELISA
Catalog No.	SK00283-06
Formulation	96 T
Lot No.	
Standard range	62.5 - 4000 pg/mL
Sensitivity	10 pg/mL
Sample Volume	100 µL
Dilution Factor	Optimal dilutions should be determined by each laboratory for each application
Sample Type	Serum, EDTA Plasma, Cell Cultures
Specificity	Human PEDF
Calibration	Human PEDF rec.
Intra-assay Precision	4 - 6%
Inter-assay Precision	8 - 10%
Storage	2 – 8° C
This kit contains sufficient materials to run 35 samples duplicated provided that assay is run according to protocol.	

Order Contact:  
**AVISCIERA BIOSCIENCE, INC.**  
 2348 Walsh Ave., Suite C  
 Santa Clara, CA 95051  
 USA  
 Tel: (408) 982 0300  
 Fax: (408) 982 0301  
 Email: [Sales@AvisceraBioscience.com](mailto:Sales@AvisceraBioscience.com)  
       [Info@AvisceraBioscience.com](mailto:Info@AvisceraBioscience.com)  
[www.AvisceraBioscience.com](http://www.AvisceraBioscience.com)

## DESCRIPTION

This Human Pigment Epithelium Derived Factor (PEDF) ELISA Kit contains the necessary components required for the quantitative measurement of recombinant and/or natural human PEDF from serum, plasma and cell cultures in a sandwich ELISA format.

This immunoassay contains recombinant human PEDF and Antibody raised against this protein. Results from this immunoassay have shown to accurately quantify recombinant and natural human PEDF samples.

## ASSAY OVERVIEW

This assay employs the quantitative sandwich ELISA format. The plate is pre-coated with an antibody specific for human PEDF. The capture antibody can bind to the human PEDF in the standard and samples. After washing the plate of any unbound substances, a detection antibody Biotinylated against human PEDF is added to the wells. Following a wash to remove any unbound antibody reagent, a Streptavidin-HRP conjugate is added to the wells. After the last wash to remove any unbound enzyme, a substrate solution is added to the wells and color develops in direct proportion to the amount of human PEDF bound in the standard solutions or samples. A standard curve can be established and sample values can be read off the standard curve.

## PROCEDURAL LIMITATIONS

\_FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES.

\_This ELISA kit should not be used beyond the expiration date on the kit label.

\_Do not mix reagents with those from other lots or sources.

\_It is important that the Dilution Buffer selected for the standard curve be consistent with the samples being assayed.

\_Each laboratory must determine the optimal dilution factors for the samples being assayed with a pretest. If samples generate values that are not within the dynamic range of the standard curve, further concentrate or dilute the samples as required with Dilution Buffer and repeat the assay.

\_Any modifications in buffers, pipetting technique, washing technique, incubation time or temperature, as well as kit age can cause a change in signal.

\_Not all interfering factors have been tested in the immunoassay, therefore the possibility of interference cannot be excluded.

## COMPONENTS PROVIDED

DESCRIPTION	CODE	QUANTITY
<b>PEDF Microplate</b> – 96 well microplate coated with an IgG specific for human PEDF.	<b>283-06-01</b>	<b>1 plate</b>
<b>PEDF Standard</b> – 8000 pg/vial of lyophilized recombinant human PEDF.	<b>283-06-02</b>	<b>1 vial</b>
<b>Detection Antibody</b> – 1.05 mL/vial of 10-fold concentrated solution of Anti human PEDF IgG biotinylated	<b>283-06-03</b>	<b>1 vial</b>
<b>Positive Control</b> – one vial of lyophilized recombinant human PEDF.	<b>283-06-04</b>	<b>1 vial</b>
<b>Streptavidin HRP Conjugate</b> – 120 µL/vial, 100- fold concentrated solution of Streptavidin HRP Conjugate	<b>SAHRP</b>	<b>1 vial</b>
<b>Dilution Buffer</b> – 30 mL of buffered solution with preservative.	<b>DB01</b>	<b>1 bottle</b>
<b>Detection Antibody HRP Diluent Solution</b> – 12 mL of buffered solution with preservative.	<b>DB08</b>	<b>1 bottle</b>
<b>HRP Diluent Solution</b> – 12 mL of buffered solution with preservative.	<b>DB06</b>	<b>1 bottle</b>
<b>Wash Buffer</b> – 50 mL of 10-fold concentrated buffered surfactant with preservative.	<b>WB01</b>	<b>1 bottle</b>
<b>Substrate Solution</b> – 11 mL of substrate solution.	<b>SS01</b>	<b>1 bottle</b>
<b>Stop Solution</b> – 11 mL of 0.5M HCl.	<b>S-STOP</b>	<b>1 bottle</b>
<b>Plate Sealer</b>	<b>EAPS</b>	<b>1 piece</b>
<b>Plastic Pouch</b>	<b>P01</b>	<b>1 piece</b>

## STORAGE

**Unopened Kit:** Store at 2 – 8° C for up to 6 months. For longer storage, unopened Standard and Positive Control should be stored at -20° C or -70° C. Detection IgG-HRP Conjugate 100-fold concentrated solution should be stored at 2 – 8° C (protect from

light). Substrate Solution can be stored at 2 – 8° C for up to 6 months (**DO NOT FREEZE** and **PROTECT FROM LIGHT**). All other components can be stored at 2 – 8° C for up to 6 months. Do not use kit past expiration date.

**Opened / Reconstituted Reagents:** Reconstituted Standard (stock) solution SHOULD BE STORED at -20° C or -70° C for up to one month.

**Microplate Wells:** Return unused strips to the plastic pouch with the desiccant pack. Microplate may be stored for up to 6 months at 2 – 8° C.

**ADDITIONAL MATERIALS REQUIRED**

- Microplate reader capable of absorbance measurement at 450 nm.
- Microplate shaker (250 – 300 rpm).
- Microplate washer or manifold dispenser.
- 100 mL and 500 mL graduated cylinders.
- Multi-channel Pipette, Pipettes and pipette tips.
- Deionized or distilled water.

**PRECAUTION**

This kit should be handled by those persons who have been trained in and can follow the principles of good laboratory practice. Wear protective clothing such as laboratory overalls, safety glasses and gloves. Care should be taken while handling solutions in this kit to avoid contact with skin or eyes, especially with the stop solution because it contains diluted hydrochloric acid. Wash immediately with water in case of contact on skin or eyes.

**SAMPLE COLLECTION AND STORAGE**

**Serum** – Use a serum separator tube (SST). Allow blood to clot for 30 minutes. Centrifuge at 1000 x g for 15 minutes and collect serum. Assay samples immediately or aliquot and store at ≤ -20° C. Avoid repeated freeze-thaw cycles.

**Plasma** – Collect plasma using EDTA, heparin, or citrate as an anticoagulant. Centrifuge at 1000 x g for 15 minutes and collect plasma. Assay samples immediately or aliquot and store at ≤ -20° C. Avoid repeated freeze-thaw cycles.

**Optional: Use Aprotinin (enzyme inhibitor) for ALL sample collection to prevent sample degradation. 0.5 TIU per mL of sample solution.**

**SAMPLE PREPARATION**

**Optimal dilutions should be determined by each laboratory for each application with a pretest.**

**Use polypropylene test tubes.**

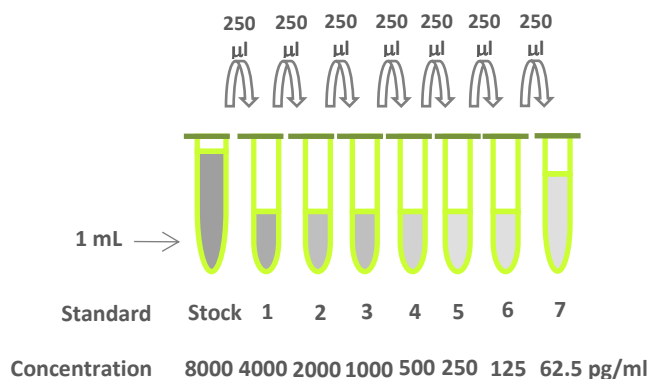
**REAGENT PREPARATION**

**Bring all reagents to room temperature before use.**

**Wash Buffer** – If crystals have formed in the concentrate, warm bottle in a water bath until the crystals have completely dissolved. Dilute 50 mL of Wash Buffer Concentrate into 450 mL distilled or deionized water to make 500 mL of 1x Wash Buffer.

**PEDF Standard** – Reconstitute the human PEDF standard with 1.0 mL of Dilution Buffer. The concentration of the reconstituted stock solution is 8000 pg/mL. Allow the stock standard to sit for at least 15 minutes with gentle agitation until completely dissolved prior to making standard dilutions (see below). Mix each tube thoroughly before the next transfer.

TUBE	STANDARD	DILUTION BUFFER	CONCENTRATION
Stock	powder	1.0 mL	8000 pg/mL
# 1	250µL of stock	250µL	4000 pg/mL
# 2	250µL of 1	250µL	2000 pg/mL
# 3	250µL of 2	250µL	1000 pg/mL
# 4	250µL of 3	250µL	500 pg/mL
# 5	250µL of 4	250µL	250 pg/mL
# 6	250µL of 5	250µL	125 pg/mL
# 7	250µL of 6	250µL	62.5 pg/mL



**Positive Control** - Reconstitute the Positive Control with 1 mL Dilution Buffer. **Note:** Positive Control could be used within a few days if stored at -20° C or -70° C.

**Detection Antibody-** Reconstitute the Detection Antibody Concentrate with 1.05 mL of Antibody Diluent Solution to produce a 10-fold concentrated stock solution. Allow the concentrated solution to sit for at least 5 minutes until completely dissolved. Pipette 9.45 mL of Antibody Diluent Solution into a 15 mL centrifuge tube and transfer 1.05 mL of 10-fold concentrated stock solution to prepare working solution.

**Streptavidin-HRP Conjugate** - Pipette 11.94 mL of HRP Diluent Solution into a 15 mL centrifuge tube and transfer 60  $\mu$ L of 200-fold concentrated stock solution to prepare working solution. **Note:** 1x working solution of Streptavidin-HRP should be used within a few days (**protect from light**). **DO NOT FREEZE.**

## ELISA PROTOCOL

**Bring all reagents and samples to room temperature before the start of the assay. Blank, standard dilutions, positive control and samples should be assayed in duplicate. ELISA Protocol may need further optimization.**

1. Prepare all reagents, standard dilutions, positive control and samples as directed previously.
2. Remove unneeded microplate strips from the plate frame and return them to the plastic pouch with the desiccant pack.
3. Add 100  $\mu$ L per well of **Dilution Buffer** to Blank wells (B2,B3).
4. Add 100  $\mu$ L per well of **Standard Dilutions** in reverse order of serial dilution from #7-1 (C2, C3 to G2, G3, G4, G5 to F4, F5), **sample**, or **positive control** (E4, E5). Cover with plate sealer and incubate for 2 hours on microplate shaker at room temperature.
5. Aspirate and wash each well with 300  $\mu$ L of **1x Wash Buffer** four times. After the last wash, aspirate any remaining 1x Wash Buffer, invert the plate and blot against clean paper towel(s).
6. Add 100  $\mu$ L per well of **Detection Antibody working solution**. Cover with plate sealer and incubate for 2 hour on microplate shaker at room temperature.
7. Repeat the aspiration and wash as in step 5.
8. Add 100  $\mu$ L per well of **Streptavidin-HRP Conjugate working solution**. Cover with plate

sealer and incubate for 60 minutes on microplate shaker at room temperature. **Protect from light.**

9. Repeat the aspiration and wash as in step 5.
10. Add 100  $\mu$ L per well of **Substrate Solution**. Incubate for 3-8 minutes on microplate shaker at room temperature. **Protect from light.**
11. Add 100  $\mu$ L per well of **Stop Solution**. The color in the wells should change from blue to yellow. If the color change does not appear uniform, gently tap the plate to ensure thorough mixing.
12. Read plate using a microplate reader set to 450 nm within 15 minutes.

## CALCULATION OF RESULTS

Create a standard curve by plotting the log of the known concentrations of the standard dilutions (x-axis) versus the log of its corresponding O.D. (y-axis) and draw the best fit line through the points. It is recommended to use computer software capable of generating a log-log curve fit to more accurately quantify the standard dilutions.

If samples have been diluted, the concentration read from the standard curve must be multiplied by the dilution factor.

## SPECIFICITY

PROTEIN	CROSS-REACTIVITY
Human PEDF	100%
Human BDNF	0
Human GDNF	0
Human FNDC5	0

## TYPICAL STANDARD CURVE

This standard curve is for demonstration only. A new standard curve should be made for each set of samples assayed.

STANDARD (PG/ML)	AVERAGE OD450 (CORRECTED)
Blank	0 (0.098)
62.5	0.063
125	0.094
250	0.192
500	0.406
1000	0.707
2000	1.170
4000	1.813

**SUMMARY OF ASSAY PROCEDURE**

PREPARE REAGENTS, SAMPLES AND STANDARD DILUTIONS
↓
Add 100 µL of standard dilutions, samples and positive control. Cover with plate sealer and incubate 2 hours on microplate shaker at RT.
↓
Aspirate and wash 4 times.
↓
Add 100 µL per well of Detection Antibody working solution. Cover with plate sealer and incubate 2 hours on microplate shaker at RT.
↓
Aspirate and wash 4 times.
↓
Add 100 µL per well of Streptavidin-HRP Conjugate working solution. Cover with plate sealer and incubate 60 minutes on microplate shaker at RT. <b>Protect from light.</b>
↓
Aspirate and wash 4 times.
↓
Add 100 µL per well of Substrate Solution. Incubate 3-8 min on microplate shaker at RT. <b>Protect from light.</b>
↓
Add 100 µL per well of Stop Solution. Read at 450 nm within 15 minutes.

